

AMENDMENTS TO THE CLAIMS

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method of representing motion of an object appearing in a sequence of images comprising:

deriving for each image a set of representative points representing the location of the object, said representative points forming a polygon defining a representative area associated therewith;

deriving ~~an~~ a trajectory approximate function representing the trajectory of a representative point from said set of representative points, in two or more of said sequence of images, where a trajectory approximate function is derived for each of said representative points in said set of representative points, the trajectory approximate function providing a modification of the location of the respective representative point, thus providing a modified representative area;
and

calculating an error value for said trajectory approximate function for each of the representative points for an image, wherein the error value is ~~based~~ calculated on the change-difference in area of the object as represented by the representative point and the area of the object with the representative point replaced by the respective approximate function value.

2. (original) A method as claimed in claim 1 wherein the error value is based on the change in area in an image.

3. (original) A method as claimed in claim 1 wherein the error value is based on the change in area in a plurality of images.

4. (Previously Presented) A method as claimed in claim 1 wherein a function approximation is derived for each co-ordinate of a representative point.

5. (Canceled)

6. (Previously Presented) A method as claimed in claim 1 wherein a function approximation is done for representative points independently.

7. (Previously Presented) A method as claimed in claim 1 wherein a function approximation is done for two or more vertices in conjunction.

8. (Previously Presented) A method as claimed in claim 1 wherein the error value for an image is based on a function of the number of pixels that are in the modified object outline replacing a representative point by the function approximation value of the representative point but not the original outline and the number of pixels that are in the original outline but not in the modified outline.

9. (Previously Presented) A method of identifying selection of an object in an image in a sequence of images, wherein the object motion has a representation derived using a method as claimed in claim 1, the method comprising identifying a selected region of the image, determining the location of said object in said image using said motion descriptor, and comparing it with the selected region to determine if said object is selected.

10. (Canceled)

11. (Currently Amended) An apparatus that determines and represents motion of an object appearing in a sequence of images comprising:

a location device that derives for each image a set of representative points representing the location of the object said representative points forming a polygon defining a representative area associated therewith;

~~an~~ a trajectory approximation device that derives ~~an~~ a trajectory approximate function representing the trajectory of a representative point from said set of representative points, in two or more of said sequence of images, where a trajectory approximate function is derived for each of said representative points in said set of representative points, the trajectory approximate function providing a modification of the location of the respective representative point, thus providing a modified representative area; and

a calculation device that calculates an error value for said trajectory approximate function for each of the representative points for an image,

wherein the error value is ~~based~~ calculated on the ~~change~~ difference in area of the object as represented by the representative point and the area of the object with the representative point replaced by the respective approximate function value.

12. (Canceled)

13. (Currently Amended) A computer system that determines and represents motion of an object appearing in a sequence of images comprising:

a location device that derives for each image a set of representative points representing the location of the object, said representative points forming a polygon defining a representative area associated therewith;

~~an~~ a trajectory approximation device that derives ~~an~~ a trajectory approximate function representing the trajectory of a representative point from

said set of representative points, in two or more of said sequence of images, where a trajectory approximate function is derived for each of said representative points in said set of representative points, the trajectory approximate function providing a modification of the location of the respective representative point, thus providing a modified representative area; and

a calculation device that calculates an error value for said trajectory approximate function for each of the representative points for an image,

wherein the error value is ~~based~~ calculated on the change-difference in area of the object as represented by the representative point and the area of the object with the representative point replaced by the respective approximate function value.

14. (Currently Amended) A computer-readable storage medium storing computer-executable process steps for determining and representing motion of an object appearing in a sequence of images, the process steps comprising:

deriving for each image a set of representative points representing the location of the object, said representative points forming a polygon defining a representative area associated therewith;

deriving ~~an~~ a trajectory approximate function representing the trajectory of a representative point from said set of representative points, in two or more of said sequence of images, where a trajectory approximate function is derived for each of said representative points in said set of representative points, the trajectory approximate function providing a modification of the location of the respective representative point, thus providing a modified representative area;
and

calculating an error value for said trajectory approximate function for each of the representative points for an image,

wherein the error value is ~~based~~calculated on the ~~change~~difference in area of the object as represented by the representative point and the area of the object with the representative point replaced by the respective approximate function value.

15. (Previously Presented) A descriptor of motion of an object in a sequence of images derived by a method according to claim 1.